

A. I. A. FILE No. 27-B

THE
RUSSWIN
“**400**”

Semi-Concealed
DOOR CLOSER

RUSSELL & ERWIN MANUFACTURING COMPANY
THE AMERICAN HARDWARE CORPORATION, SUCCESSOR
NEW BRITAIN, CONNECTICUT, U. S. A.

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COLUMBIA UNIVERSITY

RUSSWIN

Semi-Concealed Door Closer

Patented

No. "400"

for

All Interior and Inswingng Exterior Doors

Russell & Erwin Manufacturing Company

The American Hardware Corporation, Successor

NEW BRITAIN,

-

CONNECTICUT

NEW YORK

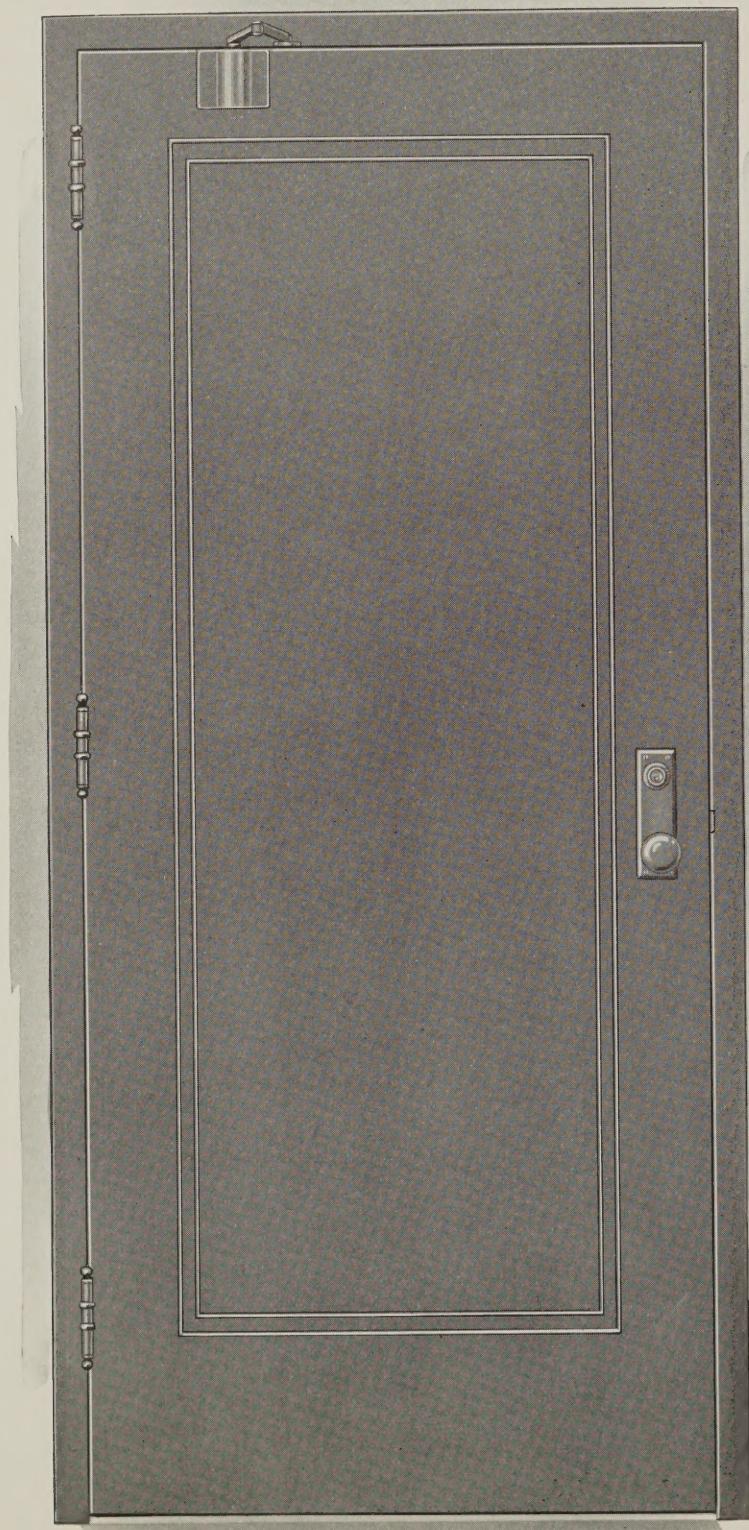
CHICAGO

LONDON, ENG.

RUSSWIN

Semi-Concealed Door Closer No. "400"

Patented



R&E
SINCE 1839

Semi-Concealed Door Closer No. "400"

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Where Perfect Performance and Modern Attractiveness Meet

Up to the present time there have been two types of Door Closers on the market.

1. The Regular Surface Closer.
2. The Concealed Closer.

Each has had its definite advantages. The Surface Closer has been brought to a point in PERFORMANCE where it leaves little to be desired. It will close doors surely and quietly, resist and overcome draughts and is practically service and attention free.

The Concealed Closer, on the other hand, is far superior in APPEARANCE, but it definitely is not the equal of the Surface type in PERFORMANCE. This is especially true where doors must be made to close subject to severe draught conditions. Because the Concealed Closer mechanism is entirely enclosed within the top rail of the door, it is necessarily small and does not always possess sufficient closing power at the latch, or proper checking properties.

The Russwin Semi-Concealed Door Closer No. 400 is the first to combine the strength, efficiency and outstandingly satisfactory performance of the Surface type with the attractiveness of the Concealed type.

Engineered soundly with great attention to every detail of construction, this revolutionary door closer is built throughout of the finest materials for each specialized function.

The Semi-Concealed Door Closer is very powerful, and is capable of handling every interior and inswinging exterior door within the range of sizes handled by the usual Surface type door closer. Its control is far superior to the present types of door closers. Structurally, it is stronger than any closer we have yet found.

Because only a small part of the whole mechanism is outside the top rail of the door, its appearance is infinitely more attractive than the Surface type closer. The whole portion is so small and unobtrusive that the whole effect is one of pleasing modern design, entirely functional if it is noticed at all, but more apt to remain unnoticed. The Russwin Semi-Concealed Door Closer utilizes the only type of arm which has ever been completely successful on a door closer—the "broken arm"—one more assurance of efficient performance.

This new Semi-Concealed Door Closer is provided with a completely concealed and fully automatic hold-open mechanism, which allows for 18 hold-open points up to 180°.

Everything that lends toward efficiency of operation and trouble free performance has been built into this precision made door closer. At the same time attractiveness and unobtrusive appearance has been obtained. Here, then, is an ideal combination, providing the ultimate in door closers.

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RUSSWIN

"MODERN DOOR CLOSING MECHANISMS"

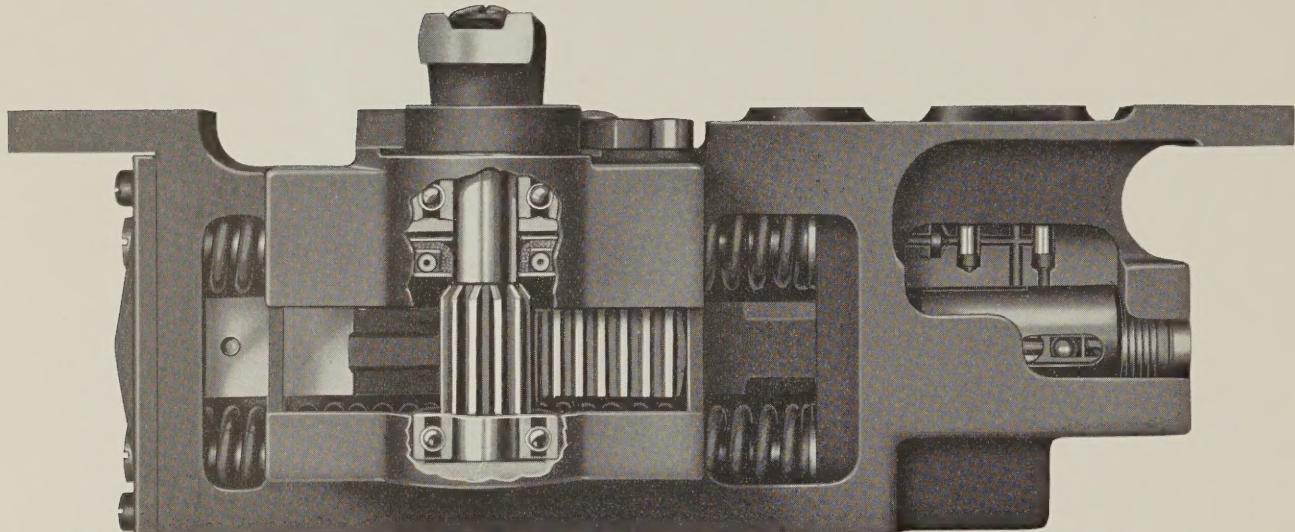
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Semi-Concealed Door Closer No. "400"

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MECHANICAL DETAILS



1. CASE

Nickel cast iron, the same as used in the cylinders of high pressure hydraulic devices. Precision machined.

2. ARMS

Forged steel and tubular sections. All turning or wearing parts are pack hardened, giving glass hard surfaces.

3. SPRINGS

Helical, automobile valve type. Made of high carbon steel, oil tempered after winding.

4. PISTON

1 $\frac{3}{4}$ " long. This makes for long life, giving a long bearing surface, decreasing the amount of wear and increasing the length of time during which the Piston effectively seals and the Closer effectively checks.

5. NICKEL STEEL RACK

Accurately cut and heat treated. The back bearing surface is ground to a glass smooth finish and slides against a hardened and ground steel block.

6. CHROME VANADIUM STEEL PINION

Accurately cut and heat treated. Cut from a single piece of steel making a true one piece Pinion. All shaft surfaces are ground.

7. BALL BEARINGS

Two large Ball Bearings of the same type and manufacture used in fine automobiles. Self lubricating.

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8. OIL SEAL

Same type and manufacture used in fine automotive design. Successfully resists capillary attraction. There are no packing nuts, glands, or tightly seated packings. The Oil Seal used is practically frictionless.

9. VALVES

Dual control (patented) plus SILENCE ADJUSTMENT. Wide range of valve movement. No fussy or hair-line adjustments. Large packing area with 2 leather and 2 cork washers to each valve.

With the system of valve control used in the RUSSWIN Semi-Concealed Door Closer, any desired manner of closing may be obtained. One valve controls the door up to approximately ten degrees of the Latch, and the second valve controls the latching speed. The door may be closed in less than three seconds from 90° so quietly that there is no audible contact between the door and the stop. This is accomplished with the SILENCE ADJUSTMENT. The Latch Control Valve may be so adjusted that the speed of the door may be hastened sufficiently to pull the stiffest latch beyond the lip of the strike and then the movement of the door may be so slowed down as to give noiseless complete closing, by means of the SILENCE ADJUSTMENT. If exceptionally strong draughts are encountered or if door or frame is warped the Latch Control Valve may be so adjusted as to hasten the movement of the door during the last few degrees of closing to bring the door against the stop, ensuring positive and complete latching.

10. LEAK PROOF

We firmly believe that the RUSSWIN Semi-Concealed Door Closer is as leak proof as it is possible to make any door closer. The Cylinder Plug is provided with an exceptionally long thread and has a copper gasket under the flange. No cement or other compound is used. The packings throughout the Closer are of copper, oil proof fibre, chrome tanned leather, and cork.

11. CHECKING LIQUID

Mineral Oil, compounded to our own formula. Flows at extremely low temperatures. Has high lubrication value. The use of Mineral Oil is possible because of the nickel iron used in the making of the Case.

12. INSTALLATION

No interference between the Top Rail and the Hinge Stile. The re-inforcements are simple and actually strengthen the door where the Closer is applied.

The Russwin Semi-Concealed Door Closer is applicable to Doors 1½ inches or more in thickness.

In the RUSSWIN Semi-Concealed Door Closer you will find:

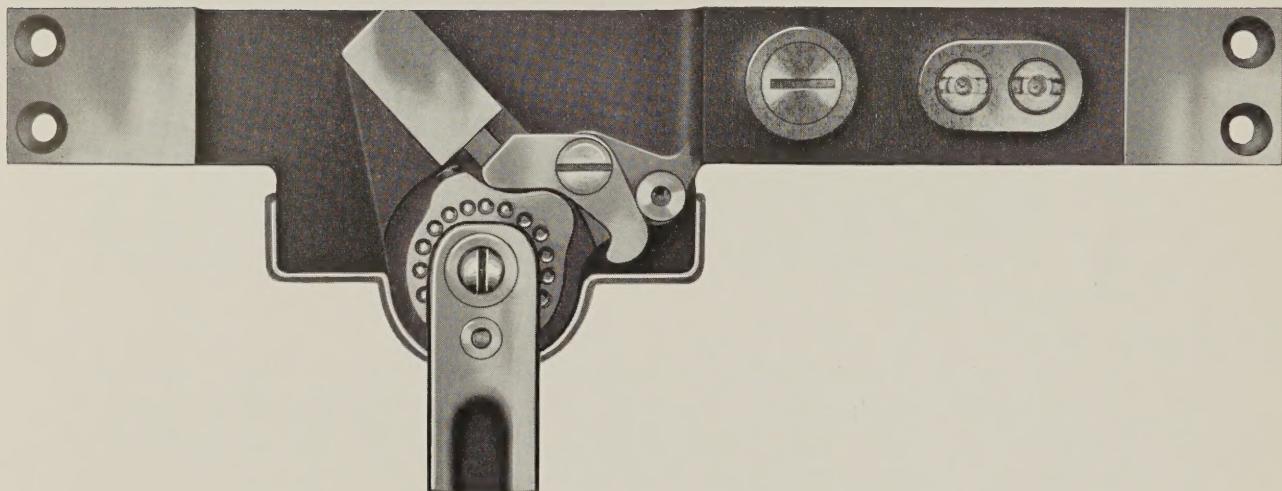
1. One Chrome Vanadium steel part, heat treated.
2. One Nickel steel part, heat treated.
3. 18 parts pack or case hardened.

These constitute striking examples of the type of construction built into this modern Door Closing Machine.

Semi-Concealed Door Closer No. "400"

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DESCRIPTION OF THE HOLD-OPEN DEVICE BUILT INTO THE RUSSWIN SEMI-CONCEALED DOOR CLOSER



The Hold-Open Device furnished as standard equipment on all RUSSWIN Semi-Concealed Door Closers is as original as the Closer itself. It provides 18 hold-open points between 0° and 180° and is fully automatic once it is set.

A new patented Cam and Pawl principle is used, all parts having glass hard surfaces. The holding tension as well as the hold-open point is adjustable.

THE HOLD-OPEN DEVICE IS TOTALLY CONCEALED

Semi-Concealed Door Closer No. "400"

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MORTISING AND TEMPLATING

For Surface Closers screw hole locations change not only for each size of Closer, but also for each 10° of opening between 100° and 160°. Further, if a 180° opening is required, a bracket must be used.

With the RUSSWIN Semi-Concealed Door Closer, THERE IS BUT ONE LOCATION AND ONE SET OF DIMENSIONS FOR ANY OPENING UP TO 180°, and THERE ARE NO BRACKETS. We repeat that there is but ONE SIZE OF MORTISE AND ONE SET OF MORTISING AND TEMPLATING DIMENSIONS REGARDLESS OF THE SIZE OF THE DOOR OR THE DEGREE OF OPENING REQUIRED.

Either one of two lengths of arms are standard with the RUSSWIN Semi-Concealed Door Closer. The No. 9 Arm is furnished for doors opening up to 120°. The No. 11 Arm is furnished for doors opening from 120° to 180°. The excess of power built into the RUSSWIN Semi-Concealed Door Closer makes possible this unique arrangement.

SUGGESTED SPECIFICATION

Door Closers for all Interior and Inswinging Exterior doors not less than 1½" thick shall be of the Semi-Concealed type partially mortised into the top rail, such as the RUSSWIN Semi-Concealed Door Closer No. "400", manufactured by the Russell & Erwin Mfg. Co., New Britain, Conn.

Closers shall be of Rack and Pinion construction, with dual, independent valve control and Silence Adjustment, two helical compression springs, forged steel closer arm, and tubular adjustable frame arm. The operating spindle shall be mounted in two ball bearings.

Closers shall have a totally concealed, adjustable, fully automatic hold-open, with all parts hardened against wear.

Closers shall be of one size with various spring capacities and all capacities shall be interchangeable in the same mortise.

Semi-Concealed Door Closer No. "400"

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FOR

ALL INTERIOR AND INSWINGING EXTERIOR DOORS

LIST OF SIZES

Size 2—For INTERIOR doors not exceeding 2'-8" x 7'-0" x 1½", 1¾".

Size 3—For INTERIOR doors not exceeding 3'-4" x 7'-0" x 1½", 1¾", and IN-SWINGING EXTERIOR doors not exceeding 2'-6" x 7'-0" x 1½", 1¾".

Size 4—For HEAVY INTERIOR doors 4'-0" x 7'-0" x 1½", 1¾", 2", and IN-SWINGING EXTERIOR doors not exceeding 3'-6" x 7'-0" x 1½", 1¾".

Size 5—For HEAVY INTERIOR doors subject to strong draughts, and HEAVY IN-SWINGING EXTERIOR doors not exceeding 3'-6" x 7'-6" x 1½", 1¾", 2".

Size 6—For EXTRA HEAVY EXTERIOR doors, EXTERIOR doors subject to strong draughts, and doors of unusual height, width and weight.

These specifications apply to doors under normal conditions. If the door is unusually heavy or is subject to very strong draughts, use one size larger than is specified.

Finishes: The Cover and Arms are regularly furnished with Prime Coat. All other finishes are extra.

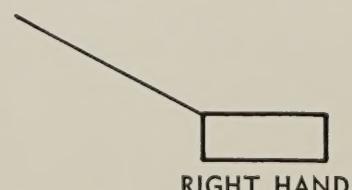
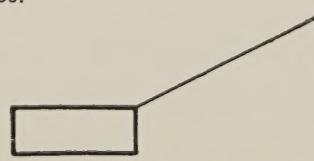
INFORMATION REQUIRED WHEN ORDERING

The information requested below is absolutely necessary if we are to fill your orders correctly and promptly. We cannot do so without it.

1. Hand of Door.
2. Type of Door: Metal or Wood.
3. Size of Closer.
4. Type of Arm—Closers are regularly furnished with No. 9 Arm for 120° doors. If doors are required to open between 120° and 180° specify No. 11 Arm.
5. Finish—Cover and Arms only, if other than Prime Coat.

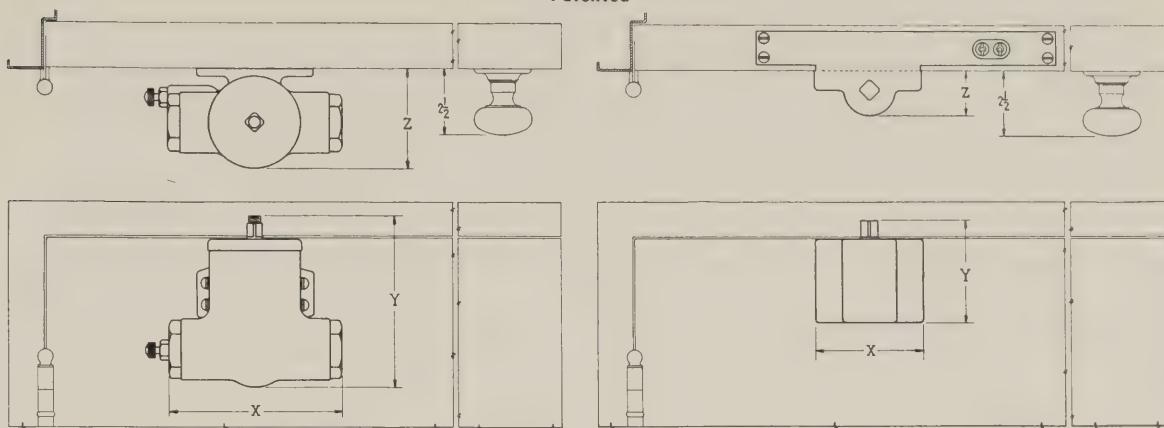
Packed one in a box, complete with machine screws, installation instructions and adjusting wrench.

Weight: 13 lbs.



Semi-Concealed Door Closer No. "400"

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COMPARATIVE DIMENSIONS OF EXPOSED CLOSERS AND THE RUSSWIN SEMI-CONCEALED DOOR CLOSER

Surface Closer

RUSSWIN Semi-Concealed Door Closer

| Make | Size | Dimensions | | | RUSSWIN | Size | Dimensions | | | |
|------|--------|---------------------------------|---------------------------------|---------------------------------|---------|------|-------------------------------|--------------------------------|-------------------------------|---|
| | | X | Y | Z | | | All Sizes | X | Y | Z |
| I | A or 1 | 4 ¹¹ / ₁₆ | 5 ³ / ₈ | 3 ¹ / ₈ | RUSSWIN | 2 | | | | |
| | B " 2 | 5 ⁹ / ₁₆ | 6 ¹ / ₈ | 3 ⁹ / ₁₆ | | 3 | | | | * |
| | C " 3 | 6 ¹¹ / ₁₆ | 6 ⁷ / ₈ | 3 ¹⁵ / ₁₆ | | 4 | 4 ¹ / ₄ | 4 ³ / ₁₆ | 1 ³ / ₄ | |
| | D " 4 | 7 ¹ / ₄ | 7 ¹ / ₂ | 4 ³ / ₈ | | 5 | | | | |
| | E " 5 | 7 ¹⁵ / ₁₆ | 8 ¹ / ₈ | 4 ¹³ / ₁₆ | | 6 | | | | |
| | F " 6 | 7 ¹⁵ / ₁₆ | 8 ¹ / ₈ | 4 ¹³ / ₁₆ | | | | | | |
| II | A or 1 | 5 ⁵ / ₈ | 5 | 3 ³ / ₁₆ | | | | | | |
| | B " 2 | 5 ⁷ / ₈ | 5 ⁷ / ₈ | 3 ¹¹ / ₁₆ | | | | | | |
| | C " 3 | 6 ³ / ₈ | 7 | 4 | | | | | | |
| | D " 4 | 7 ⁵ / ₈ | 7 ¹ / ₂ | 4 ³ / ₈ | | | | | | |
| | E " 5 | 8 ³ / ₈ | 8 | 4 ¹³ / ₁₆ | | | | | | |
| | F " 6 | 8 ³ / ₈ | 8 ³ / ₄ | 5 ¹ / ₄ | | | | | | |
| III | A or 1 | 4 ⁷ / ₁₆ | 4 ³ / ₄ | 3 ³ / ₈ | | | | | | |
| | B " 2 | 5 ³ / ₈ | 5 ³ / ₄ | 3 ¹¹ / ₁₆ | | | | | | |
| | C " 3 | 6 ¹ / ₈ | 6 ¹ / ₄ | 3 ¹⁵ / ₁₆ | | | | | | |
| | D " 4 | 6 ⁵ / ₈ | 7 ¹ / ₁₆ | 4 ³ / ₁₆ | | | | | | |
| | E " 5 | 7 ¹ / ₈ | 7 ¹⁵ / ₁₆ | 4 ⁷ / ₁₆ | | | | | | |
| | F " 6 | 7 ⁷ / ₈ | 8 ¹ / ₂ | 4 ¹ / ₂ | | | | | | |
| IV | A or 1 | 6 ⁵ / ₈ | 6 ⁹ / ₁₆ | 4 | | | | | | |
| | B " 2 | 6 ⁵ / ₈ | 6 ⁹ / ₁₆ | 4 | | | | | | |
| | C " 3 | 6 ⁵ / ₈ | 7 ³ / ₁₆ | 4 ¹ / ₈ | | | | | | |
| | D " 4 | 6 ⁵ / ₈ | 7 ³ / ₄ | 4 ¹ / ₂ | | | | | | |
| | E " 5 | 8 ⁷ / ₈ | 8 ¹¹ / ₁₆ | 4 ⁷ / ₈ | | | | | | |
| | F " 6 | 8 ⁷ / ₈ | 8 ¹¹ / ₁₆ | 4 ⁷ / ₈ | | | | | | |
| V | A or 1 | 6 ¹ / ₂ | 4 ⁷ / ₈ | 3 ¹ / ₁₆ | | | | | | |
| | B " 2 | 6 ⁷ / ₈ | 5 ¹ / ₂ | 3 ¹ / ₄ | | | | | | |
| | C " 3 | 8 ¹ / ₈ | 6 ¹ / ₄ | 3 ⁵ / ₈ | | | | | | |
| | D " 4 | 8 ¹ / ₂ | 6 ⁷ / ₈ | 3 ⁷ / ₈ | | | | | | |
| | E " 5 | 9 ¹ / ₈ | 7 ⁷ / ₁₆ | 4 ¹ / ₈ | | | | | | |
| | F " 6 | 9 ³ / ₄ | 8 ¹ / ₄ | 4 ⁵ / ₈ | | | | | | |
| VI | A or 1 | 7 | 5 | 3 ¹ / ₂ | | | | | | |
| | B " 2 | 7 ¹ / ₂ | 5 ³ / ₄ | 3 ³ / ₄ | | | | | | |
| | C " 3 | 8 ¹ / ₂ | 6 ¹ / ₄ | 4 | | | | | | |
| | D " 4 | 8 ³ / ₄ | 6 ³ / ₄ | 4 ¹ / ₄ | | | | | | |
| | E " 5 | 9 ¹ / ₄ | 7 ¹ / ₂ | 4 ¹ / ₂ | | | | | | |
| | F " 6 | ... | ... | ... | | | | | | |

Note that in all instances the dimensions X, Y, and Z of the Russwin Semi-Concealed Door Closer are smaller than those of the A or 1 Closer.

*The average door knob extends 2¹/₂" from the face of the door.

All of the operating advantages of the well-designed Surface Closer — plus NEAT APPEARANCE.

One size of Case and one size of mortise always in the same location with one set of templating dimensions for

ALL SIZES OF DOORS

from the

LIGHTEST TO THE HEAVIEST

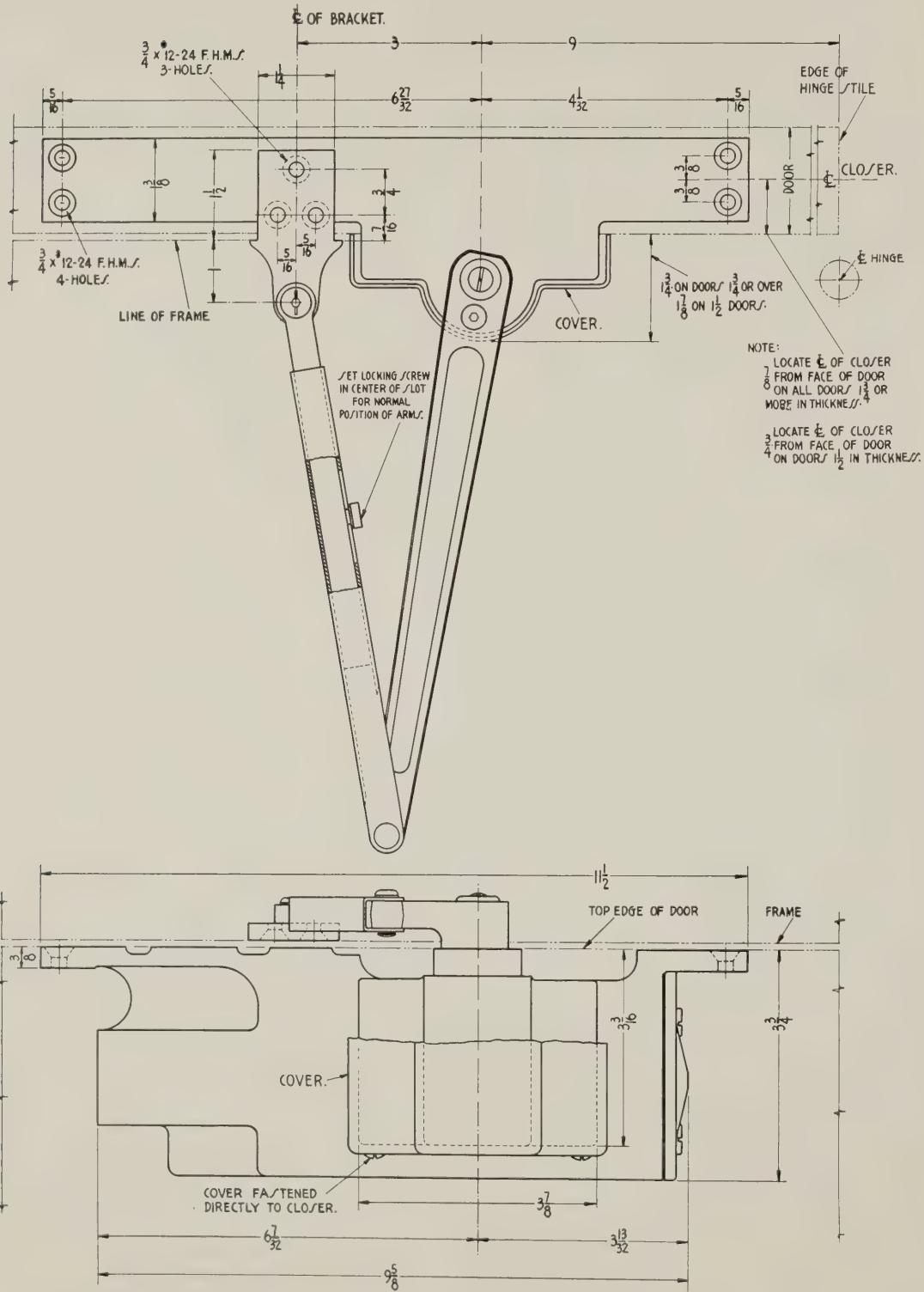
with various

SPRING CAPACITIES.

Semi-Concealed Door Closer No. "400"

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For all Interior and Inswingng Exterior Doors

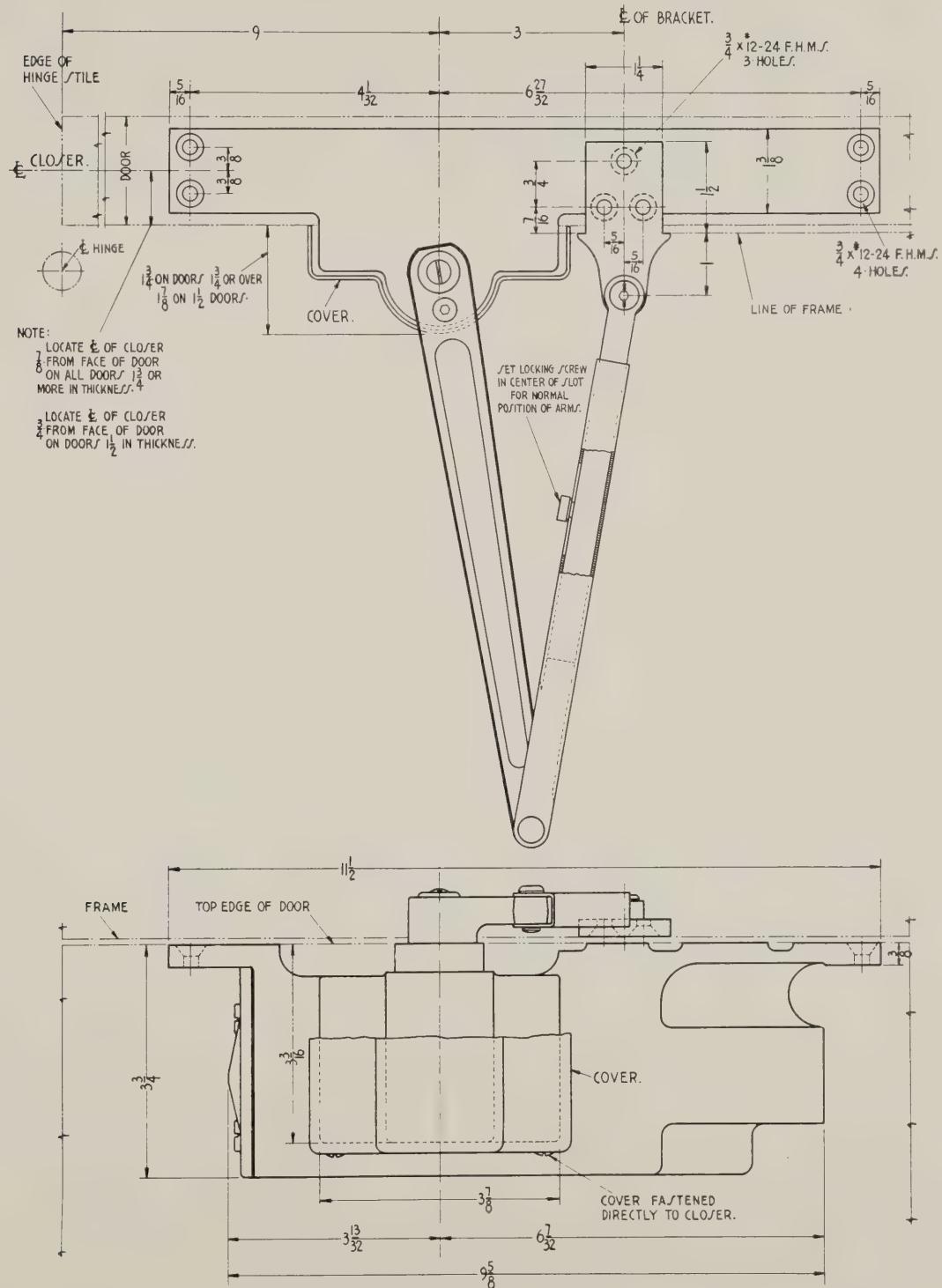


Templating details for LEFT HAND Semi-Concealed Door Closer No. "400".
See page 8 for List of Sizes and Ordering Instructions.

Semi-Concealed Door Closer No. "400"

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For all Interior and Inswingng Exterior Doors



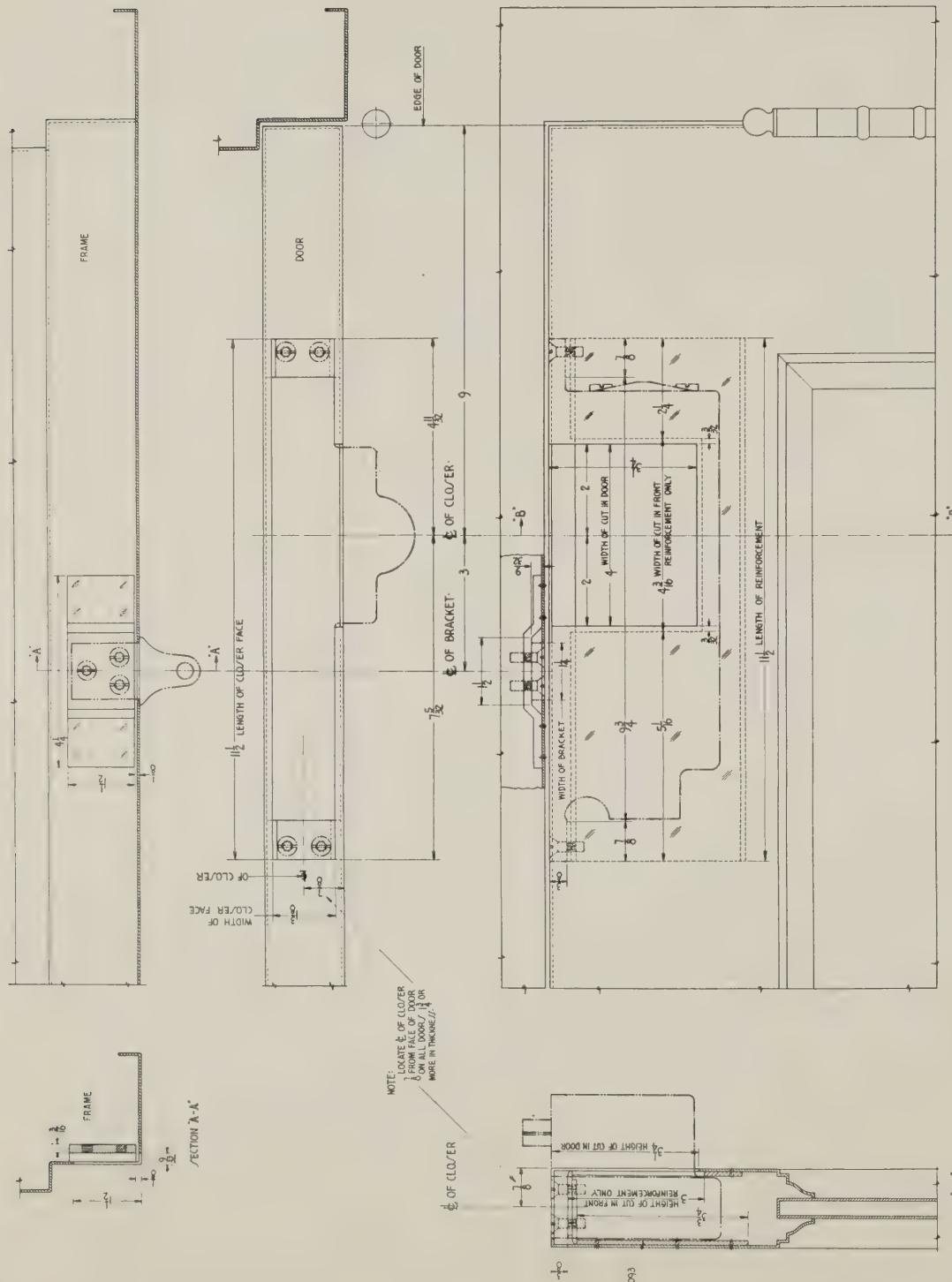
Templating details for RIGHT HAND Semi-Concealed Door Closer No. "400".

See page 8 for List of Sizes and Ordering Instructions.

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For all Interior and Inswingng Exterior Doors

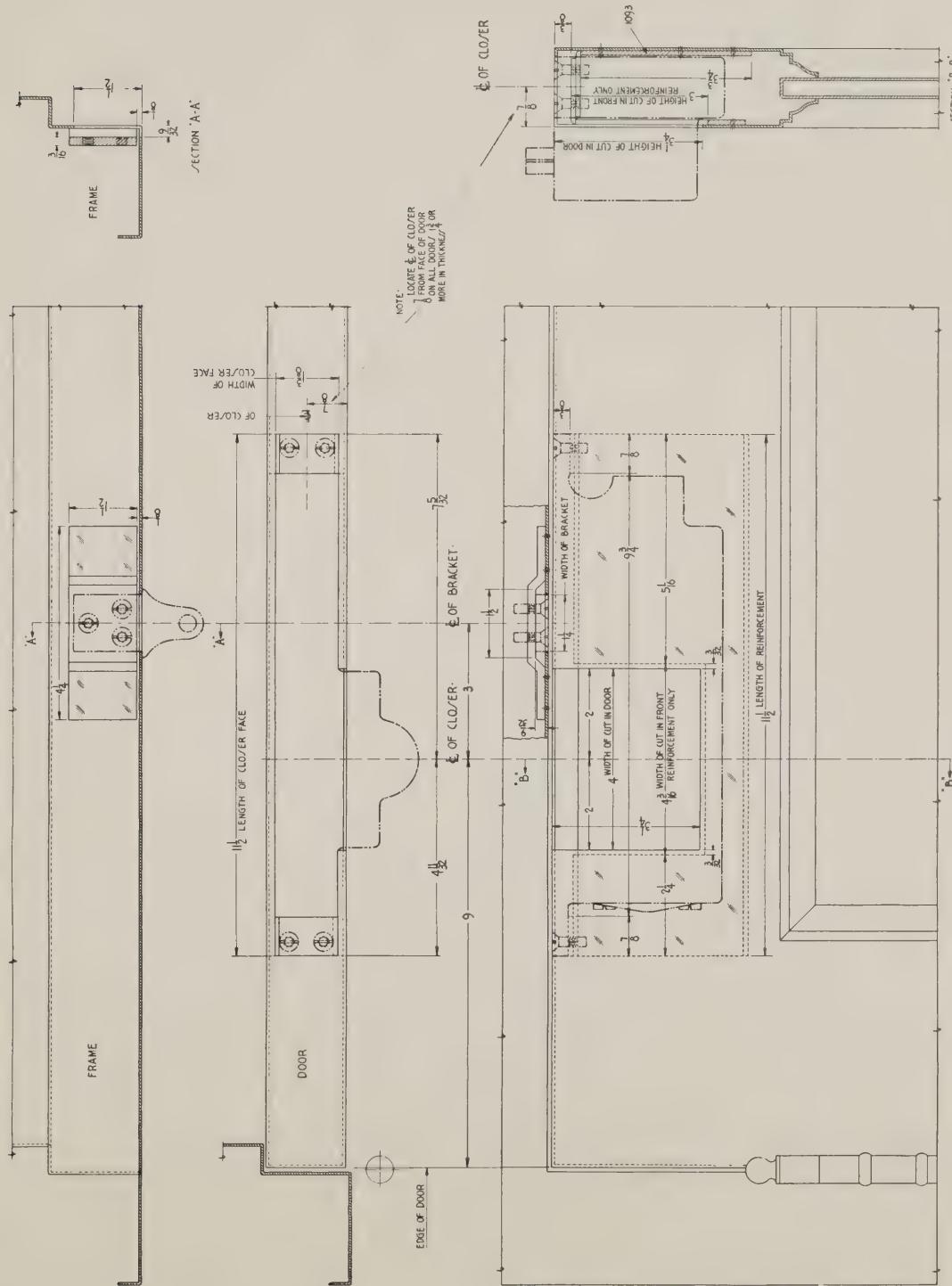


Reinforcing and Mortising details for LEFT HAND Semi-Concealed Door Closer No. "400" with Doors 1 $\frac{3}{4}$ " or over.
 See page 8 for List of Sizes and Ordering Instructions.

Semi-Concealed Door Closer No. "400"

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For all Interior and Inswingng Exterior Doors

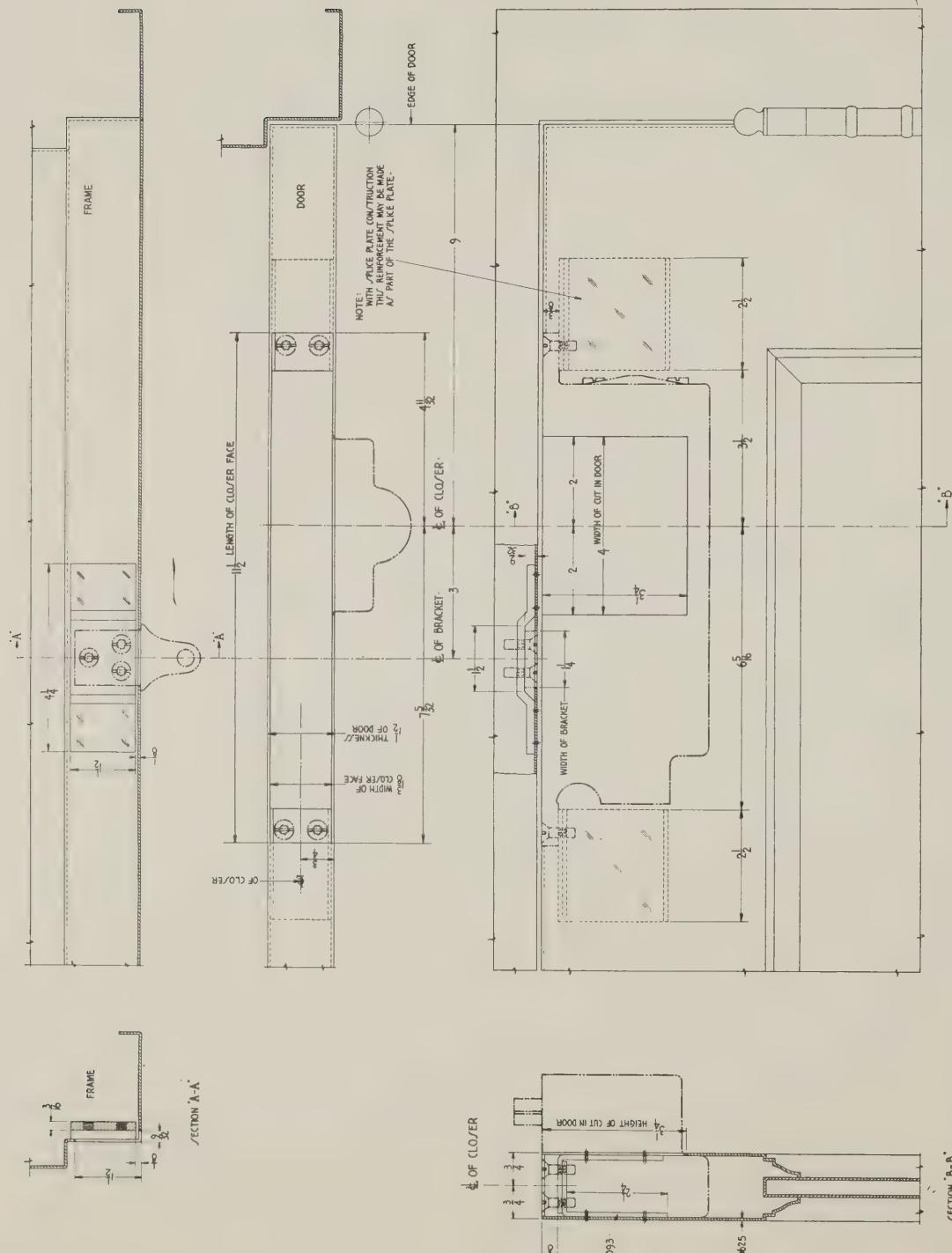


Reinforcing and Mortising details for **RIGHT HAND** Semi-Concealed Door Closer No. "400" with Doors $1\frac{3}{4}$ " or over.
 See page 8 for List of Sizes and Ordering Instructions.

Semi-Concealed Door Closer No. "400"

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For all Interior and Inswinging Exterior Doors

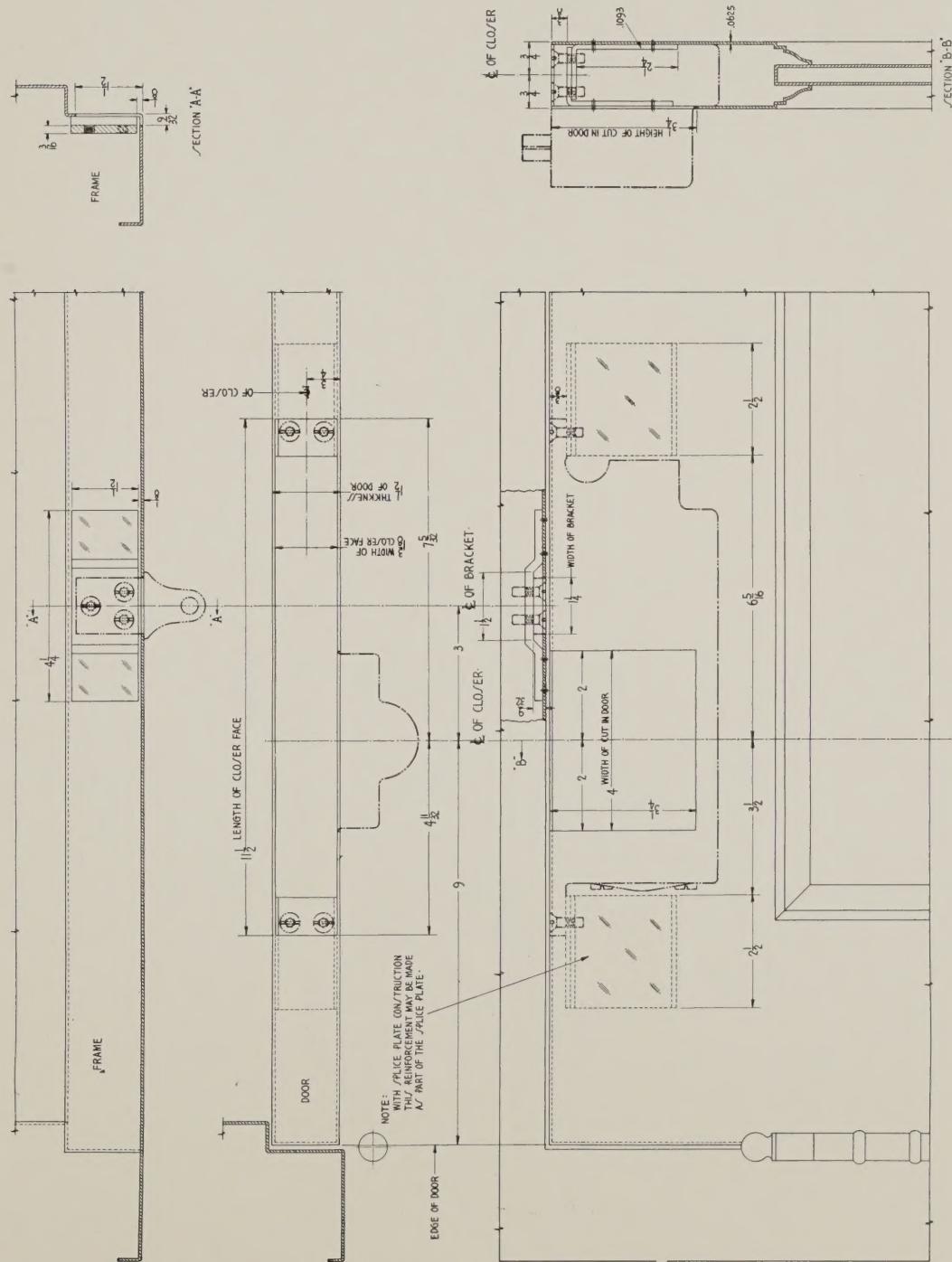


Reinforcing and Mortising details for LEFT HAND Semi-Concealed Door Closer No. "400" with $1\frac{1}{2}$ " Doors.
See page 8 for List of Sizes and Ordering Instructions.

Semi-Concealed Door Closer No. "400"

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For all Interior and Inswingng Exterior Doors

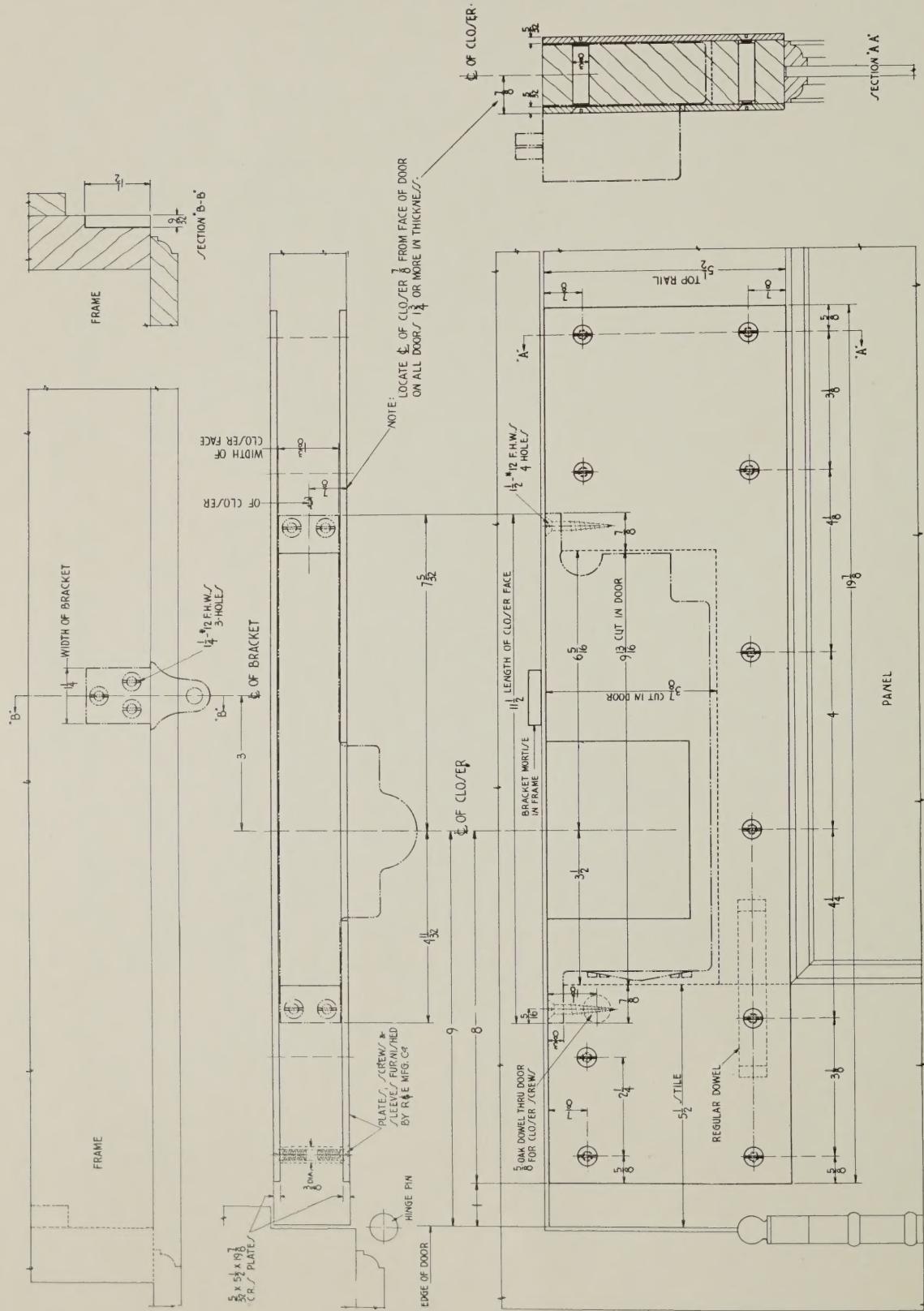


Reinforcing and Mortising details for RIGHT HAND Semi-Concealed Door Closer No. "400" with 1 1/2" Doors.
See page 8 for List of Sizes and Ordering Instructions.

Semi-Concealed Door Closer No. "400"

Patented

For all Interior and Inswinging Exterior Wood Doors



Reinforcing and Mortising details for RIGHT HAND Semi-Concealed Door Closer No. "400" with $1\frac{3}{4}$ " Wood Doors.

Complete information and details for other thickness of Wood Doors will be furnished on request.

See page 8 for List of Sizes and Ordering Instructions.

